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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,450	11/12/2003	Scott William Rosencrance	09328.105084 US	7997

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EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/706,450

Applicant(s)

ROSENCRANCE ET AL.

Examiner

Carlos Lopez

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-19, 22, 25-30, 60-64 and 70-80 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-19, 22, 25-30, 60-64 and 70-80 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/9/06 has been entered.

***Claim Objections***

Claim 73 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Parent claim 70 already recited the claimed HBL noted in dependent claim 73.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 15-19, 22, 25-27, 29-30, 60-64, and 70-80 are rejected under 35 U.S.C. 103(a) as obvious over Miyauchi et al (US 5,801,135) in view of Cook et al (WO 93/22491). Miyauchi et al discloses a deinking composition comprising fatty acid (a) and a nonionic surfactant (b), see abstract. The composition of (a) and (b) ranging from

Art Unit: 1731

5/95 to 40/60 weight ratio which is converted to a 5 to 40% by weight of a fatty acid (a). Miyauchi et al is silent disclosing the claimed step (a) of converting the waste paper to a non-alkaline or low alkaline pulp slurry, the claimed step (b) of contacting the slurry with the deinking composition and claimed step (c) of separating the ink from the pulp slurry by washing and/or flotation.

However, the claimed steps a-c as noted by Cook et al, are steps done by the prior art to deink waste paper. Note pages 1-2 explicitly showing converting the waste paper to a slurry, contacting the slurry with "chemicals for detachment of the printing ink", the claimed deinking blend, and removal of the ink by washing or flotation.

Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have used Miyauchi et al discloses a deinking composition as used in the prior art, as noted by Cook et al, in order to de-ink waste paper.

As for the claimed HBL, Miyauchi discloses a HBL of 12; a difference of 1 HBL of the fatty alcohol would still provide an effective deinking agent without any unexpected results.

As for the claimed pH, Cook notes that deinking is normally carried out at alkaline pH values, by definition alkaline is a pH above 7, thus encompassing the claimed pH values.

As for claim 2, as shown in the examples the first fatty acid is non-alkoxylated.

Art Unit: 1731

As for claims 3-4 and 71-72, the first fatty acid comprises 40 to 90%wt of fatty acids having 12 to 14 carbon atoms and less than 60% wt fatty acids having 16 to 18 carbon atoms (See abstract).

As for claim 9, Example 4 of Cook shows the addition of sodium silica to the slurry.

As for claim 15, claim 8, of Miyauchi discloses an ethoxylation of 20 or 25 moles.

As for claim 16, claim 9 of Miyauchi discloses a fatty alcohol with 8 to 24 carbons.

As for claim 19 and 77, the blend of Miyauchi meeting the claimed composition is a liquid at room temperature (See Col. 5, lines 28-30).

As for claims 22 and 25, examples 1-3 of Miyauchi show the claimed ratios.

As for claims 26-27, Miyauchi teaches of providing 0 to 20%wt by water, see abstract.

As for claim 29-30, 61 and 78, Miyauchi is silent disclosing adding the claimed second fatty acid recited in claim 29-30 of the instant invention. However, Miyauchi does teach that its deinking composition can be used in combination with other known deinking agents and cites as a few examples (Col. 4, lines 41-45). In view that Cook discloses the claimed fatty acid, it would be obvious to a person of ordinary skill in the art at the time the invention was made to have used Cook's deinking agent as taught by Miyauchi.

Art Unit: 1731

As for claim 5-8, 62-64, 74-76, 79-80, Miyauchi provides a plurality of fatty alcohols which as noted above is disclosed by Miyauchi in bridging paragraph of Col. 2-3, wherein m is zero.

Claim 28 is rejected under 35 U.S.C. 103(a) as obvious over Miyauchi et al (US 5,801,135) in view of Cook et al (WO 93/22491) as applied to claim 1 above, and in further view of Robinson et al (US 6,544,383). Neither Miyauchi nor Cook disclose alternative sources for fatty acids. However, Robinson teaches that tall oil can be used as a fatty acid deinking agent (Col. 6, line 24). Thus, at the time the invention was made it would have been obvious to a person of ordinary skill in the art to have provided tall oil, as taught by Robinson, as an alternative source of fatty acid deinking agent to the combined teachings of Miyauchi and Cook.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as obvious over Miyauchi et al (US 5,801,135) in view of Cook et al (WO 93/22491) as applied to claim 1 above, and in further view of Applicant's admitted prior art (PAT) disclosed in Applicant's Specification page 18. Miyauchi is silent disclosing adding the claimed cationic additive as a flotation additive. However, PAT discloses the claimed cationic additive, it would be obvious to a person of ordinary skill in the art at the time the invention was made to have used PAT's flotation additive in order to aid in the deinking of waste paper.

### ***Response to Arguments***

Applicant's arguments filed 3/9/06 have been fully considered but they are not persuasive.

Art Unit: 1731

Applicant argues that the amendment obviates the 35 USC 103 rejections because the cited references fail to disclose an HLB greater than 13 and a pH in the range from 6.0 to 8.8. In regards to the argument that the references do not teach the claimed pH, Cook discloses that deinking is normally carried out at an alkaline pH above 7, thus encompassing at the very least applicant claimed range of 7.0 to 8.8.

Applicant also argues that the references do not disclose an HLB of greater than 12 and would not have motivated a skilled worker to employ such surfactant in a flotation process, nor does the reference support a prima facie case of obviousness because it does not disclose low-alkaline deinking, and it would not have motivated a skilled worker to deink in low-alkaline conditions using a high HLB alkolyted fatty alcohol and between 20 and 60wt% of fatty acid. As noted above, Miyauchi discloses a HBL of 12; a difference of 1 HBL of the fatty alcohol would still provide an effective deinking agent without any unexpected results. A difference of 1 HBL between the prior art and the claimed invention is not sufficient to be deemed as "high", and a pH of 7, as noted above, falls within the claimed pH values. Applicant alleges that the working pH of the prior art is 9 or even 10 but not does not cite a reference, or evidence, supporting said allegation.

Applicant also alleges that there is unexpected result in using a higher HLB surfactant because as shown in table 3 when using an HLB less than 9 results in "worse Brightness and Eric values." Regarding recycled paper, the prior art normally seeks high brightness values and low Eric values, wherein Eric values measure the retention of residual ink remaining in the recycled paper. It is noted that the sample using an HLB of

Art Unit: 1731

less than 9, as alleged by applicant to be inferior to the claimed invention, results in a higher brightness of 50.2 and lower Eric value of 516 in contrast to the claimed invention using an HLB of greater than 13 which results in a brightness of 49.3 and Eric value of 534. Yet applicant states "This surprising result could not have been expected from the prior art, which teaches that lower HLB surfactants are needed in flotation deinking systems." Hence, based on what the prior art teaches, it appears that the only "surprising result" is the fact that applicant seeks properties that are deemed undesirable in the prior art. Applicant is invited to further explain why a lower brightness and higher Eric value provides surprising results from products used in the prior art that have an improved brightness and Eric values.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a stylized 'L' followed by a 'Z'.

CL

***NOTE applicant's RCE submission dated on\*\*\*\*\****

***Claim Objection***

**\*\*\*Claim 73 is objected to for failing to further limit parent claim 70.\*\*\***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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